AUGUST 1997   DEVICE 6E31

NAVAL AIR WARFARE CENTER   ORLANDO, FLORIDA
TRAINING SYSTEMS DIVISION
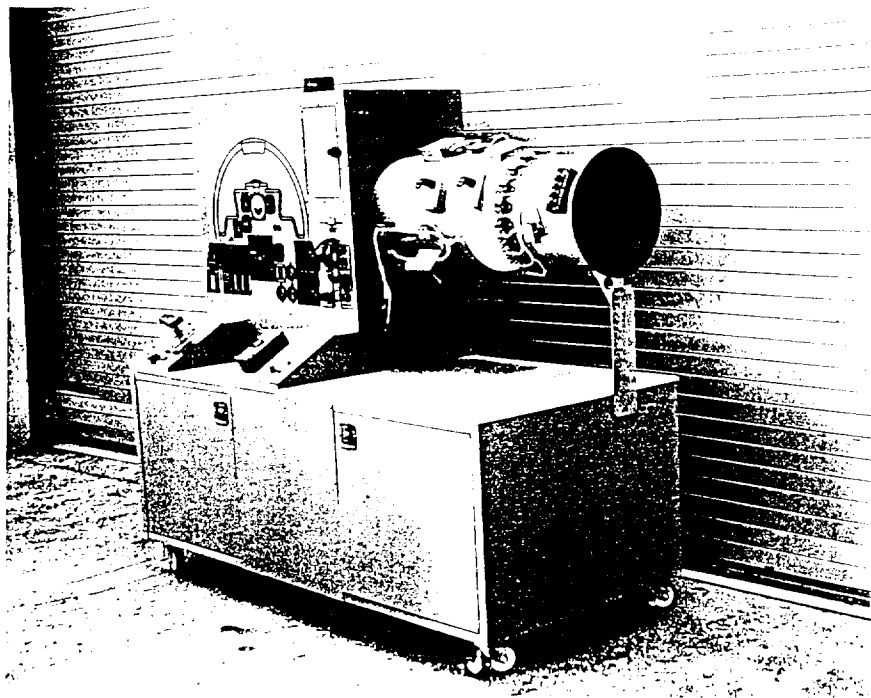
TRAINING CATEGORY:

Basic Science (jet ignition
system operation)

ORIGINATING AGENCY:

CNO/AIR

**SECURITY CLASSIFICATION
OF DEVICE:**

Device 6E31 is unclassified.

PURPOSE OF DEVICE:

Develop Navy students'
proficiency in troubleshooting
jet ignition and turbine inlet
temperature systems.

INTENDED USE:

The trainer allows the student
to perform functional and
operational checks of the jet
ignition system and functional
checks of the turbine inlet
temperature system. Using
computer-controlled and
simulated Analog and Digital
Multimeters (AMM and DMM), the
student probes real cannon-
type connectors located
throughout the trainer and on
the engine.

FUNCTIONAL DESCRIPTION:

Device 6E31 Aircraft Jet Ignition System Trainer simulates a scaled-down aircraft jet ignition system similar to that found on an F14. The trainer consists of a support structure, a cockpit with silkscreened components and "active" or simulated controls and indicators, and a simulated jet engine. The engine contains scaled-down models of the exciter, igniter, accessory drive alternator, flameout sensing unit, and thermocouples (9 mounted on the front half of the circumference of the engine) with contacts on 9 modules of the engine.

Device 6E31 simulates voltage and resistance measurements during normal operation and when a malfunction occurs. The student probes simulated test points on real cannon-type connectors. The jet ignition system contains 32 fault conditions; the turbine inlet temperature system contains 29 faults. The instructor inserts faults via the Instructor Control Panel, and software simulates reactions that occur in actual jet ignition or turbine inlet temperature systems.

The trainer's 486 computer runs at 66 MHz. It has 8 Mb RAM, 1 Mb DRAM (expandable to 64Mb), built-in math coprocessor, selectable cache memory, keyboard and monitor connections, built-in floppy disk drive controller, 1.44 Mb floppy disk drive, 270-Mb SyQuest removable hard disk drive, built-in IDE hard disk drive interface, external power connector, two RS-232 serial ports, and one parallel port.

PHYSICAL INFORMATION:

Dimensions: 77" x 30" x 76"

Simulated jet engine extends 36" from right side of trainer

EQUIPMENT REQUIRED (Not supplied):

None

POWER REQUIREMENTS:

115 VAC (400 Hz)

PUBLICATIONS FURNISHED:

6E31 Operations and Maintenance Manual, P-7192 (U).

6E31 Training System Utilization Handbook, P-7193 (U).

PERSONNEL REQUIREMENTS:

One student trainee

CONTRACT IDENTIFICATION:

Manufactured by Essex Corporation, Space and Defense Division, Huntsville, Alabama, under NAVAIRWARCENTRASYSDIV contract No. N61339-94-C-0035